Fire Ants in Dry Areas

BY J. S. PHILLIPS

(Presented at the meeting of January 5, 1933.)

There are marked differences in *Solenopsis geminata* Fab. *rufa* Jerdon behavior according to habitat.

Whereas in pineapple fields, this ant lives in very large colonies, its nests extend to a considerable depth and the individuals are very pugnacious and intolerant of other insects; in dry areas they have small colonies, shallow nests and are comparatively peaceful.

Some of the workers of very small communities are much smaller than the normal minor worker; it is possible that these are the first brood of a new colony and have been fed by the queen with her saliva. These minute individuals are not found in pineapple fields.

Fire ants store a variety of seeds in their nests: wood sorrel, crab-grass, purslane, wire-grass, foxtail, spurge, sow thistle and fuzzy rattlepod being among those preferred.

In very dry areas, a black-and-white silverfish is found in association with Solenopsis; it is a very rapid mover. What its relations are with the fire ant, I do not know.

In moister areas, especially in cultivated ones, fire ants are being driven out by *Pheidole megacephala* (Fab.), though in certain circumstances, there are temporary reverse fluctuations; but in dry areas the latter cannot advance, for Solenopsis can stand both higher temperatures and lower humidities than its competitor and if the two species are placed under exactly similar conditions either of high temperature or of low humidity, or both, Solenopsis will flourish whereas all castes of Pheidole will succumb in a very short time. Laboratory experiments support this view as well as field conditions.

Proc. Haw. Ent. Soc., VIII, No. 3, July, 1934.